

destruction of antiscorbutic. Suggestions are made as to means of preventing this.

6. The germination of dry peas, beans, and lentils before cooking is strongly recommended as a means of providing extra antiscorbutic when fresh vegetables and fruit are scarce or absent.

7. It is suggested that abnormally rapid growth may promote the development of scurvy in children.

In conclusion, we desire to express our gratitude to Professor v. Pirquet, who placed all his valuable records freely at our disposal, and to the members of his nursing staff who assisted us in every way in our investigations.

#### REFERENCES.

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## TWO CASES OF CARCINOMA ALIVE EIGHT YEARS AFTER RADIUM TREATMENT.

BY

ECHLIN S. MOLYNEUX, M.R.C.S.,

HONORARY SURGEON TO THE WARNEFORD HOSPITAL, LEAMINGTON.

ONE hears a good deal about apparent cures of cases of carcinoma by radium, in reports written soon after the treatment has ended, but little of what happens to these patients afterwards. The following two cases were seen eight years and one month ago, and radium treatment was started almost immediately.

#### CASE I.

In July, 1912, a man of 61, who had previously enjoyed excellent health, but was a heavy smoker and took alcohol fairly liberally, sent for me because he had noticed a swelling on the right side of his neck. He also complained that for some months he had had some irritation of the throat, and was continually expectorating small amounts. A hard indurated ulcer with everted edges, of about the size of a shilling, could be seen and felt below the right tonsil. The swelling in the neck was a large mass of hard and fixed lymphatic glands. He was seen by various surgeons in London and the provinces, and all agreed in the diagnosis of carcinoma of the pharynx, quite beyond operative interference.

In spite of the poor results obtained by radium in cases of carcinoma of the pharynx, I determined to give it a trial. I started by giving two applications of radium a week from the outside of the neck, and continued till the skin could stand no more without risk of ulceration, when I lessened the amount of radiation. The whole side of his neck was radiated as far down as the clavicle. At the end of a month there was a decided improvement, both of the primary growth and of the glands.

At the end of six months all signs of disease had completely disappeared. Notwithstanding this, I continued to apply radium about once a week with a few short intervals, when the patient or myself were away, for another six months. He had his last application in July, 1913. Since then he has had no signs whatever of any recurrence, and to-day, eight years after, at the age of 69, he is in excellent health, and able to lead a busy life.

#### CASE II.

A lady, aged about 60, complained in July, 1912, of a swelling in her right breast. It presented the usual signs of scirrhus carcinoma, and was adherent to the pectoral fascia. There were hard glands in the right axilla, but the supraclavicular glands appeared normal. The right breast was amputated and the axilla cleared.

A piece of the growth from the breast and the whole of the mass of glands and connective tissue removed from the axilla were sent for pathological investigation. The report was that the tumour was a scirrhus cancer, and that not only did the axillary glands exhibit signs of secondary infection, but the fat of the axilla also was largely permeated by cancer cells. It was apparent, therefore, that it was impossible for surgery to have removed the whole of the diseased structures, and as soon as the wound had completely healed I started radium treatment. The whole of the axilla and right side of the chest was rayed, and this was repeated till the skin showed signs of intolerance. Treatment was not left off till July, 1913. During this time there were no signs of recurrence. In November, 1913, a small swelling appeared over one of the ribs near the scar, suspiciously like the commencement of a recurrence. Radium treatment was resumed forthwith, and the swelling soon subsided. I continued applying radium till May, 1914.

She has remained free from symptoms till lately, when she

complained of a cough, and I found rhonchi and râles over the chest, more marked on the right side, but no bronchial breathing. I also think I can detect some enlargement of the liver, but she is stout and the abdomen is difficult to examine. She is a sufferer from rheumatoid arthritis, and is too infirm from this to be willing to undertake a visit to have her chest x rayed, so the diagnosis remains in doubt, but the signs are very suspicious of a recurrence in the lungs and liver.

From the above notes I think it can be fairly claimed that Case I has probably been cured by radium, and Case II has to thank radium for eight years of life, though the chances are that she is after all going to succumb to carcinoma.

If more observers would publish the late results of similar cases that they have been able to follow, it would much help our knowledge of this important subject.

## SODIUM BIBORATE IN THE TREATMENT OF EPILEPSY IN AN ASYLUM.

BY

JOHN MCCARTNEY, L.R.C.P. AND S.ED.,

ASSISTANT MEDICAL OFFICER, LANARK DISTRICT ASYLUM.

ON the male side of this institution there are about 60 epileptics, or 11 per cent. of the total number of male patients. The majority are chronic cases, and a large number of them have been resident for many years.

Formerly the routine treatment was a large dose of potassium bromide (gr. xxx) night and morning. Examination of the ward books, in which a record is kept of all fits in epileptic patients, shows that this has had little effect in reducing the number of fits or bringing about any mental improvement. The only change noticeable was a lessening of excitability and an increase of mental confusion.

Sodium biborate is mentioned in medical textbooks as an alternative to potassium bromide. Eight months ago I decided to try a mixture containing potassium bromide and sodium biborate. The treatment was commenced on December 27th, 1919, on the patient J. D. quoted below. The results were so striking in his case, after a fair trial, that it was decided to apply the treatment more widely. The benefit of the treatment has been very marked in all the wards; in two, where the treatment has been in use for four months, the fits have been reduced by 64 per cent., and in two other wards in which the treatment was commenced about six weeks ago there has been a reduction of 68 per cent., and that amongst patients who formerly had fits at regular intervals. It is interesting to note that in the male hospital four of the patients have had no fits since commencing treatment about July 20th. Previous to treatment, three of them never went longer than eight days without having fits, and the other averaged twelve days and then had a bout of from three to five fits.

The following three cases may be quoted as striking examples:

#### CASE I.

J. D., aged 40, admitted March, 1918; Wassermann negative. From admission until treatment was started the patient was subject to violent uncontrollable attacks of excitement at intervals ranging from three to five weeks. These attacks lasted from one to seven days; the more violent the outburst the shorter the duration. Sedatives had very little effect, and his violence was such that frequently at night attendants were on special duty at his bedside. He also suffered from auditory hallucinations and delusions of suspicion. Since the commencement of treatment, in December, 1919, these outbursts of epileptic furor have disappeared entirely. The fits have been reduced by about 65 per cent., and this in spite of lapses in the treatment of three weeks at one time and two weeks at another. These intervals without treatment were tried to see the effect of stoppage, and in each case the fits returned. His mental condition has improved. There is now no stupor after a fit, and the patient states that he now "feels his head clear."

#### CASE II.

J. F., aged 33, admitted May, 1917; Wassermann negative. This patient states that he started to "take turns" when he was 11 years of age. On admission he was irritable, quarrelsome, and very impulsive. He was a most troublesome patient, and had fits regularly and in bouts. Treatment was commenced on April 5th, 1920, and his fits have been reduced 86 per cent. He has had none since May 6th. Mentally he is clearer, his memory has improved, he gives no trouble, and now expresses the desire to be allowed out to do some work.